

G 1346

(Pages : 2)

Reg. No.....

Name.....



**B.TECH. DEGREE EXAMINATION, MAY 2015**

**Seventh Semester**

Branch : Applied Electronics and Instrumentation/Electronics and  
Instrumentation Engineering

**BIOMEDICAL INSTRUMENTATION (AS)**

(Old Scheme—Prior to 2010 Admissions)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 4 marks.*

1. Explain the macro shock hazards.
2. Explain the principle of phono cardiography.
3. Write notes on B.P. monitors.
4. Write short notes on polarizable electrodes.
5. Write down the equivalent circuit of bipolar loads.
6. What is meant by 10-20 electrode system ? Explain.
7. What is the need for pacemakers ? Explain.
8. Give a note on electrical safety codes.
9. List the classification of ventilators.
10. Write down the hindrance caused while extracting information in biopotential recording.

(10 × 4 = 40 marks)

**Part B**

*Answer all questions.*

*Each question carries 12 marks.*

11. With a neat block diagram, explain a single-channel electrocardiograph.

*Or*

12. Write a note on micro and macro shock hazards briefly.

Turn over

13. Give the equivalent circuit of a surface electrode and micro-electrodes.

*Or*

14. Write a note on direct method of measurement of blood pressure.

15. Discuss the instrumentation of phonocardiograph, with a neat block diagram.

*Or*

16. Write a note on 10-20 electrode placement system.

17. Discuss the working of an electroencephalograph with a neat block diagram.

*Or*

18. Write short notes on :

(a) pH meter.

(b) Auto analyzer.

19. Discuss the working of ventricular synchronous demand pacemaker with a neat block diagram.

*Or*

20. Explain the working of shortwave diathermy.

(5 × 12 = 60 marks)

